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The Costs of Out-of-School-Time Programs: A Review of the Available Evidence

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Summary

Nearly two-thirds of U.S. families are now headed by two working parents or a single working parent. Accompanying the rise in working parents is a growing demand for high-quality supervised care and enrichment activities for children and youth during out-of-school hours. To make sound investment decisions, policymakers, program providers and budget officials need a clear understanding of the costs of a variety of out-of-school-time options. Up-to-date, reliable cost information is essential for estimating the full costs of quality out-of-school-time programs, as well as the incremental costs of improving or expanding existing programs. Without this information, leaders cannot make informed decisions about how to allocate scarce resources to support high-quality out-of-school-time care.

Since 1993, several studies have calculated the annual per-child costs of various out-of-school-time programs. These studies rely on program budgets and funding data as well as surveys of providers to collect information about the costs of these programs. Taken together, they provide a sense of what it costs to run out-of-school-time programs. Key findings from a review of the cost studies include these.

- **There is a lack of up-to-date information on the costs of out-of-school-time care.**
- **Researchers and practitioners do not have a standard methodology for estimating the full costs of out-of-school-time programs.** Although it is expected that the cost of an out-of-school-time program will vary according to many factors—including the cost of living; the program's auspices, schedule, and services; the number, age, and special needs of children served by the program; and investments in program quality—a standard methodology for collecting information on these factors has not yet been developed.

- **Findings from selected cost studies of out-of-school-time programs suggest a wide variation in costs—from \$449 to \$7,160 per child per year—more than a fifteen-fold range.**
- **Much of this variation can be attributed to program characteristics and methodological differences** in sample sizes, how costs are calculated, whether in-kind resources are taken into account, and whether startup, operating, and system-building costs are included.
- **Not much is known about the cost implications of investments that can improve the quality of out-of-school-time programs**, such as smaller staff-youth ratios and professional development. This kind of information is necessary to understand the costs of high-quality out-of-school-time programs and the incremental costs of improving lesser-quality programs.

The Finance Project and Public/Private Ventures are studying the costs of high-quality out-of-school-time programs. The full report, to be published in 2007, was commissioned by The Wallace Foundation as part of its commitment to improve the quality of out-of-school learning opportunities for children and families. It will include a reference guide on the costs of various types of programs offered in different settings, by different providers, and with different goals. It will also examine the cost implications of other types of program characteristics, such as staff-youth ratios, total size, and staffing patterns. To inform this work, the project team reviewed the literature on costs and quality in out-of-school-time programs and in related fields. This report presents the findings of the literature review on costs and includes bibliographies of resources on costs and quality.

- **Many cost studies do not include the value of in-kind resources (e.g., facilities), which can account for between 50 percent and 100 percent of total program costs.** Omitting the costs of in-kind resources can lead to an underestimation of the full costs of out-of-school-time programs.
- **Many cost studies focus solely on ongoing operating costs and do not account for startup, expansion, or system-building costs.** These expenses are critical for understanding how much it costs to sustain and expand out-of-school-time programs.
- **Staff costs and facility costs constitute the largest and most consistent shares of total out-of-school-time program expenses.**
- **Little is known about the relationship between costs and program scale.** Existing research suggests that economies of scale are difficult to achieve in out-of-school-time programs, because only a small proportion of total costs are sensitive to program scale. However, more research is needed to understand if and how out-of-school-time programs can benefit from economies of scale.

Although there have been important advances in understanding out-of-school-time programs in recent years, more in-depth studies are needed to determine the total costs, cost elements, and cost variations of out-of-school-time programs across different program types, locations, and offerings. Additional research is also needed to develop reliable models to estimate the costs of expanding and improving various programs and services. Addressing these information gaps is essential to support sound decisionmaking and investments in high-quality out-of-school-time programs and systems nationwide. The final section of this literature review provides an overview of some of the insights and lessons learned from the early care and education fields that can help inform this research agenda. In particular, research from related fields can provide important insights into the measurement of full costs, the relationship between costs and quality, and the development of cost estimates and costing-out models.

Section I: Review of the Out-of-School-Time Cost Literature

The Full Costs of Out-of-School-Time Programs

Little is known about the full costs of out-of-school-time programs nationwide. This lack of information poses a challenge in understanding and implementing options to finance expansion and improvements in out-of-school-time programs. No recent nationally representative data on the cost of out-of-school-time care exist, and the available price data are more than 10 years old. The last national study of out-of-school-time programs was published in 1993.¹

Since 1993, several studies have calculated the annual per-child costs of various out-of-school-time programs (see Appendix 1: Studies on Out-of-School-Time Program Costs). These studies rely on program budgets and funding data as well as surveys of providers to collect information about the costs of these programs. Taken together, the cost studies provide a sense of what it costs to run out-of-school-time programs. The findings suggest a wide variation in the total costs of out-of-school-time programs—from \$449² to \$7,160³ per child per year—more than a fifteen-fold range.

Although these studies provide some guidance on the cost of out-of-school-time care, several methodological issues make it difficult to compare or draw conclusions from their findings.

- **Outdated data.** With the exception of Naughton and Teare and Procio and Whiting, the studies rely on cost data from 1999 to 2001, so they do not represent the full costs of operating an out-of-school-time program in nominal 2006 terms.⁴
- **Small sample sizes.** All of the studies analyze out-of-school-time cost data in the context of a particular initiative, such as the Extended-Service Schools Initiative, with a limited number of sites and locations. Small sample sizes undermine the applicability of the findings to other geographical areas and different types of out-of-school-time programs and models.
- **Unreliable methodologies.** Many studies do not reflect the actual expenses of out-of-school-time programs, relying instead on proxies such as fees, grant amounts, and program budgets. In some cases, the cost information is based on questionable assumptions, rather than careful collection and analysis of information from operating programs. The notable exception is Grossman et al., which collected actual cost profiles for 10 after-school sites participating in the Extended-Service Schools Initiative. The study appears to be the most thorough calculation of total cash and in-kind expenditures to date.⁵

¹ Seppanen et al., *National Study of Before- and After-School Programs* [online] (Washington, D.C., U.S. Department of Labor, 1993), <http://www.ed.gov/offices/OUS/PES/esed/b4andafr.html>.

² Carol Herrera and Amy J. A. Arbreton, *Increasing Opportunities for Older Youth in After-School Programs: A Report on the Experiences of Boys & Girls Clubs in Boston and New York City* (Philadelphia, Pa.: Public/Private Ventures, January 2003)

³ Karen E. Walker and Amy J. A. Arbreton, *After-School Pursuits: An Examination of Outcomes in the San Francisco Beacon Initiative* (Philadelphia, Pa.: Public/Private Ventures, March 2004).

⁴ Sandra Naughton and Catherine Teare, *The Financing of California's After School Programs: Preparing for Implementation of Proposition 49* (Oakland, Calif.: Children Now, July 2005); and Tony Proscio and Basil J. Whiting, *After-School Grows Up, How Four Large American Cities Approach Scale and Quality in After-School Programs* (New York, N.Y.: The After-School Corporation, June 2003).

⁵ Susan J. Bodilly and Megan K. Beckett, *Making Out-of-School-Time Matter: Evidence for an Action Agenda* (Santa Monica, Calif.: RAND Corporation, 2005), 57; and Grossman et al., *Multiple Choices After School: Findings from the Extended-Service Schools Initiative* (Philadelphia, Pa.: Public/Private Ventures, June 2002).

- **Exclusion of in-kind resources.** Many studies do not account for the value of in-kind resources (e.g., donated facilities, staff/volunteer support, and equipment and supplies), which can account for between 50 percent and 100 percent of out-of-pocket program costs.⁶ Although these resources do not typically show up in program expenditures, they provide a significant subsidy to out-of-school-time programs and should be reflected in the total costs. The inclusion of in-kind resources is also important for replication purposes, because programs in other locations may not be able to secure the same amount of donated or in-kind support.
- **Exclusion of key cost elements.** Many studies focus solely on operating costs, so they do not take into consideration the startup, expansion, or system-building costs associated with out-of-school-time programs. These cost elements are particularly important to understand the full costs of developing and growing out-of-school-time programs and systems.
- **Lack of information on key program characteristics.** Many studies fail to capture information on key out-of-school-time program characteristics, such as child-staff ratios, the operating schedule, the number and age of children served, and the types of activities provided. This contextual information is required to assess what the dollars are buying.

Therefore, smaller studies, while providing useful information, cannot be generalized to the field. The methodological limitations of many of the existing studies make it difficult to discern what the dollars are buying, or how costs may vary for different types of out-of-school-time programs in different settings.

Additional research, using a common methodology, is needed to better understand the true costs of developing and running a nationally

representative set of out-of-school-time programs. More work is needed to define terms, standardize approaches, and collect detailed information using those standard definitions and approaches.

Cost Elements and Their Significance as a Proportion of Total Costs

Breaking total costs down into elements can help paint a picture of the major expenses that out-of-school-time programs face and of how costs are allocated across these various elements. Researchers generally agree that the main cost elements of out-of school time programs are startup, operating, capital, and infrastructure or system-building costs. However, not much is known about the significance of various cost elements as a proportion of total costs (see Table 1). Most of the existing literature on out-of-school-time cost elements focuses on operating costs. In contrast, little is known about startup, capital, and system-building costs. A better understanding of these cost elements is essential to help inform the development and expansion of out-of-school-time programs and systems.

Cost Variations Among Different Types of Out-of-School-Time Programs

To understand the amount of resources required to invest in out-of-school programs, leaders need to understand how costs vary across different programs. Although it is expected that program costs will vary according to many factors—such as the program operating schedule, location, and auspices; the types of services offered; the age, number, and needs of the youth; investments in program quality; and program scale—there is no evidence to support these assumptions (see Table 2). More rigorous research, based on econometric analysis, is needed to identify and quantify the cost variations among different out-of-school-time programs.

⁶ R. Raley, J. Grossman, and K. Walker, *Getting It Right: Strategies for After-School Success* (Philadelphia, Pa.: Public/Private Ventures, 2005), 36.

Table 1. Key Findings on Various Cost Elements of Out-of-School-Time Programs

Cost Elements	Description	Key Findings
Startup Costs	Initial costs associated with planning and readying a program for operation.	<ul style="list-style-type: none"> Little is known about the actual costs of starting up out-of-school-time programs.
Operating Costs	<p>Costs associated with running an out-of-school-time program on an ongoing basis, including:</p> <p>(1) staff compensation, including salaries and benefits;</p> <p>(2) facilities-related costs, including rent, utilities, and maintenance; and</p> <p>(3) other costs, including food, supplies, insurance, transportation, and subsidies and scholarships, as well as administrative and overhead costs.</p>	<ul style="list-style-type: none"> The largest and most consistent element in the cost structure of out-of school time programs is staff salaries and benefits. However, because the value of in-kind staff and volunteer time is not consistently captured in program budgets, staff compensation may account for a larger share of total costs than is reported in the existing research (Halpern et al. May 2000). Staff compensation accounted for 65% to 80% of total program costs in the Making the Most of Out-of-School-Time (MOST) study (Halpern et al. 2001). Facilities-related costs are generally the second largest category of costs in out-of-school-time program budgets (Halpern et al. May 2000). Rent and utilities alone accounted for 15% to 20% of total program costs in the MOST study (Halpern et al. 2001). A child Care Inc. study found that community-based agencies running programs in schools typically spent 35% of their budgets on rental and other school-use fees (Halpern et al. May 2000). These costs vary widely by program, but they can range up to 20% of total costs (Halpern et al. 2001).
Capital Costs	Costs relating to the building, expansion, renovation, or improvement of physical facilities for an out-of-school-time program.	<ul style="list-style-type: none"> Little is known about the capital costs of out-of-school-time programs.
Infrastructure or System-Building Costs	Costs associated with the underlying support services or systems that make the direct programming possible, including system planning and evaluation; developing and operating systems for training and licensing providers; coordinating resources, such as transportation services and resource and referral information for parents; providing technical assistance to programs to sustain or upgrade their operations; and providing financing or other support for capital improvements.	<ul style="list-style-type: none"> Little is known about the system-building costs of out-of-school-time programs.

Note: See Appendixes II and III for complete citations of the studies referenced.

The Relationship Between Cost and Quality

During the past several years, numerous credible evaluations have begun to shed light on elements that contribute to high-quality out-of-school-time programs and, more tenuously, on the connection between quality programs and improved outcomes for children and youth. However, researchers' understanding about the relationship between cost and quality is still very rudimentary.

A few studies have developed cost estimates for operating high-quality out-of-school-time programs in particular locations. For example, a Parents United for Child Care report estimated the full cost of a high-quality out-school-time program in Boston, Massachusetts, to be \$4,349 per slot per year. This estimate is based on the professional judgment of out-of-school-time providers in Boston. It assumes that the out-of-school-time program is school-based or community-based; is a single site of a larger administrative structure that operates three out-of-school-time programs; operates during the

Table 2. Potential Cost Variation Factors

Potential Cost Variation Factors	Rationale
Program operating schedule (how many hours per day and weeks per year)	Programs that operate fewer hours and days per week are likely to have lower total costs (Halpern et al. May 2000).
Location	The cost of living in the geographical area where the program is located can affect various cost elements, such as staff compensation and facilities (Grossman et al. June 2002).
Auspices of the program (whether it is a school-based, community-based, or faith-based program)	Public agencies and large youth-serving organizations tend to pay higher salaries than smaller community-based organizations. It is not clear that this salary differential reflects significant variations in staff qualifications (Halpern et al. May 2000).
Types of services the program provides (e.g., arts, recreation, technology, parental enrichment, and academic enrichment and homework help)	Other factors being equal, the more a program is enriched with arts, sports, or other activities requiring specialized teachers, the higher the cost (Halpern et al. May 2000).
Number of children served by the program	Other factors being equal, the more children a program serves, the higher its total costs. However, economies of scale may reduce the total costs per child.
Target age group	Programs serving younger children typically require higher staff-youth ratios than those serving older children. On the other hand, programs serving older youth tend to have more specialized staff. The relationship between these different staffing needs and total program costs is still unknown.

Note: See Appendixes II and III for complete citations of the studies referenced.

school year only, including school vacations and holidays; serves 50 children ages 5 to 14; maintains a 10:1 child-staff ratio; and has qualified staff and professional development opportunities.⁷

Studies such as the one in Boston are useful guides for estimating the costs of specific types of high-quality out-of-school-time programs in specific locations. However, they do not reveal much about the relationship between cost and quality more broadly. In addition, the numerous assumptions underlying these studies may not correspond with practitioners' needs or preferences.

Additional research is needed to develop a standard methodology for differentiating the cost of high-quality programs from the cost of programs that are of low or moderate quality. In particular, more work needs to be done to help shed light on the cost implications of various investments in program quality, such as lower child-staff ratios, additional program curricula, higher staff qualifications, and greater professional development. This type of information can help inform decisionmaking on financing the development of new high-quality programs and on the costs of improving existing ones.

The Relationship Between Cost and Program Scale

During the past decade, the number and scale of out-of-school-time programs have expanded significantly at the local, regional, and national levels. After School Matters, the Boys & Girls Club, Citizen Schools, and YouthBuild USA are examples of organizations that have created multiple out-of-school-time programs across the nation.

The growth of multisite out-of-school-time programs has prompted researchers to look

more closely at the relationship between cost and program scale. Although the literature base in this area is small, some preliminary research exists on key questions such as:

- Are there economies of scale (i.e., the ability to share indirect costs over more products) and/or economies of experience (i.e., the ability to turn out more products at a lower cost) for out-of-school-time programs?
- How do economies of scale and experience affect the total costs of multisite programs?

Findings from the small number of existing studies suggest that economies of scale are difficult to achieve in out-of-school-time programs, because only a small proportion of total costs are sensitive to program scale.⁸ For example, a Kids Count study found that only a small proportion of the operating and system-building costs is likely to decrease with scale. It hypothesized that some cost savings related to staff compensation, facilities, other operating costs, and infrastructure or system-building costs may be possible for larger scale or multisite programs.⁹ However, there is no rigorous data to support this hypothesis.

- **Staff compensation.** It may be possible to achieve some costs savings in larger programs by setting up more efficient staffing procedures or schedules (e.g., hiring a floater to cover for staff members who are sick, on break, or in training) and spreading the costs of administrative staff over a greater number of children per site.
- **Facilities.** Few economies of scale exist with facilities-related costs, because these costs generally increase with program size. As programs grow, they require more space, which increases the associated rental, utility, and custodial costs. Programs may be able to

⁷ Wechsler et al., *Meeting the Challenge: Financing Out-School-Time Programming in Boston and Massachusetts* (Boston, Mass.: Parents United for Child Care, March 2001), 23.

⁸ Based on a review of the literature, to date only a few studies, one by The Bridgespan Group and another by Rhode Island Kids Count, have addressed this issue.

⁹ Rhode Island Kids Count, *Cost and Scale in Out-of-School Time: A Literature Review* (Providence, R.I.: Rhode Island Kids Count, August 2003).

achieve slight cost efficiencies if they spread fixed utility costs over more children.

- **Other operating costs.** Overhead costs may be affected by economies of scale, because these costs grow more slowly than the program or organization.
- **System-building costs.** System-building efforts that serve a large number of programs—including establishing and operating systems to plan and evaluate programs, coordinate resources and information, train and license providers, and arrange transportation—can reduce the total costs of these programs.

A Bridgespan Group study, which examined the costs of 10 multisite youth development programs between 1999 and 2003, found that most organizations did not realize significant economies of scale and/or experience.¹⁰ (Two organizations saw their costs per youth decline; three saw an initial increase and subsequent decline in costs; and five organizations saw little to no change in their costs.) Based on interview data, the authors pointed to several factors that may explain why economies of scale and/or experience did not exist, including these:

- **Programmatic changes.** Several organizations were still modifying or adapting their programs.
- **High turnover rates.** Many programs reported high turnover rates, especially among part-time staff and volunteers.
- **Hiring of additional professional staff.** Many programs reported needing to bring in more professional staff, which increased their cost base and potentially offset any efficiency gains achieved in other areas.

- **Program quality investments.** Many organizations chose to increase the quality of their programs rather than pursue efficiency gains. These changes included investing in staff training, establishing processes for communicating and sharing information about best practices across sites, enhancing programs to better serve participants' needs, and measuring program performance.

This research highlights the challenges of conducting rigorous research to analyze economies of scale in out-of-school-time programs, given the inherent tradeoff between efficiency and quality. The continually evolving nature of many out-of-school-time programs makes it difficult to collect reliable data on, and test for, economies of scale.

Cost Estimate Models for Out-of-School-Time Programs

Cost estimate models provide tools and information that can be used to calculate the expected costs of various types of programs offered in different settings, by different types of providers, and in different regions. These models can help stakeholders estimate the costs of providing or improving out-of-school-time programs and systems. In contrast to studies of program costs, which explore the costs of a particular program in a particular setting, cost estimate models can be used to generate cost estimates for different programs.

Although researchers have made significant advances in developing cost estimate models for early care and education, the comparable knowledge base for out-of-school-time care is quite limited. Efforts to develop reliable cost estimate models for out-of-school-time care can be informed by advances in related fields.

¹⁰ The Bridgespan Group, *Growth of Youth-Serving Organizations—A White Paper Commissioned by The Edna McConnell Clark Foundation* (Boston, Mass.: The Bridgespan Group, March 2005).

Section II: A Review of the Cost Literature and Lessons from Related Fields

Costs and quality are important issues in related fields that serve children and youth, including early care and education and education systems. In particular, the literature on costs in early care and education (ECE) may be informative to cost studies of out-of-school-time (OST) care given several parallels between these fields. ECE and OST programs both serve diverse populations of children, providing different activities across different types of institutional settings.

Cost Studies in Early Care and Education

The field of early care and education has a rich body of literature on the cost-effectiveness and cost benefits of ECE programs—a level of analysis that generally looks at program costs broadly. Yet, as in OST, the research literature on the cost elements of ECE programs is fairly limited. However, research undertaken during the 1990s on costs, quality, and outcomes in child care centers has provided an important framework for measuring costs in ECE. In addition, research on the costs of the military's child care system has contributed to building the knowledge base on program costs and quality. The research approaches taken in these ECE cost studies can help inform cost studies in OST in areas that include:

- the determination of the full costs of programs;
- methodological approaches to measuring full costs;

- the components of program quality;
- the relationship between cost and quality; and
- the development of cost estimate models.

The seminal *Cost, Quality and Child Outcomes in Child Care Centers Study* (CQO study), conducted by a consortium of academic researchers, collected cost and quality data to examine the relationship between these two elements. The CQO study, the largest piece of child care research conducted in the 1990s, examined early care and education programs in four states: California, Colorado, Connecticut, and North Carolina.¹¹ The protocol the CQO study used to collect data on the costs of child care centers—the full costs of care, including center expenditures and the costs of in-kind donations—is the most comprehensive instrument that has been used by researchers trying to gauge program costs in child care.¹² The findings of the CQO study have been presented in a series of reports.¹³

The CQO study has provided a model for more recent studies of costs and quality in ECE. The Massachusetts cost and quality study examined costs, quality, and their relationship in preschool classrooms and infant and toddler classrooms. Reports published in 2001 on findings in preschool classrooms and in 2004 on infant and toddler classrooms are available from the Wellesley Centers for Women.¹⁴ Similarly, the Maine cost and quality study examined cost and

¹¹ Ellen S. Peisner-Feinberg et al., *The Cost, Quality and Child Outcomes in Child Care Centers Study* (Denver, Colo.: Center for Research on Economic and Social Policy, 1995).

¹² Frederic Glantz and Jean Layzer. *The Cost, Quality and Child Outcomes Study: A Critique* (Cambridge, Mass.: Abt Associates Inc., September 2000), 6, <http://www.abtassoc.com/reports/ccqual.PDF>.

¹³ See http://econ.cudenver.edu/home/research_reports.htm.

¹⁴ Visit <http://www.wcwonline.org/earlycare/>.

quality issues in preschool classrooms and family child care homes. Reports, published in 2004, are also available from the Wellesley Centers for Women.¹⁵

Both the U.S. General Accounting Office (GAO) and the RAND Corporation have studied costs in the military's child care system, recognized as providing high-quality care to young and school-age children. GAO examined the full costs of operating the Air Force's child development centers and compared these with the full costs of comparable child care in the civilian market.¹⁶ The RAND Corporation studied child care costs across all the military services and examined how costs vary by child care setting and child age.¹⁷ Unlike the other studies mentioned in this literature review, the RAND study examined the costs of care to parents and the U.S. Department of Defense (i.e., the price), rather than the full costs of operating programs.

Measurement of Full Costs

Which costs are measured and how they are measured are critical to determining the full costs of operating programs. Full-cost accounting requires researchers to identify and give a value to the cost of all resources used by a program, including costs incurred by a program along with the value of in-kind contributions.¹⁸ Determining program costs and, in particular, the value of in-kind contributions, can be challenging, given the variability of financial record-keeping and the need to give a market value to donations.

The literature on costs in ECE may provide some insight and guidance to researchers in OST and other fields on examining full costs as well as illustrate different approaches to cost data

collection and analysis. Helburn and Howes, for example, break costs from the CQO study into three categories: expended center costs, which are cash costs incurred by providers to produce services, including food, labor, occupancy, overhead, and other operating costs; cost with in-kind donations, including donations from individuals and agencies; and the full cost of care, a more inclusive measure of the value of all resources used to provide services that is made up of expended center costs plus donations plus the forgone earnings of child care staff.¹⁹ The researchers contend that the low wages of child care providers constitute, in effect, a labor donation that, like any donation, should be included in the full cost of care.

A critique of the CQO study raises several important methodological issues with regard to measuring costs and offers a rebuttal on including forgone earnings in calculations of cost.²⁰ For example, the authors argue for applying a market test to in-kind contributions to assess their value to a program. A market test determines whether program leaders would have purchased the in-kind contributions had they not been donated and to what extent. It provides a more nuanced assessment of the value of donations than simply using the prevailing market rate. The authors also point to the importance of estimating the costs incurred by large organizations in support of programs, even if such costs are not reported by the larger organization. The authors suggest that the inclusion of forgone wages in the CQO study results in a substantial overestimation of costs, given that child care wages reflect prevailing labor market rates.

Additional guidance on methodological issues can be found in *Measuring Preschool Costs and*

¹⁵ See <http://www.wcwonline.org/maine/index.html>.

¹⁶ U.S. General Accounting Office, *Child Care: How Do Military and Civilian Center Costs Compare?* GAO/HEHS-00-7 (Washington, D.C., October 1999), <http://www.gao.gov/new.items/he00007.pdf>.

¹⁷ Gail Zellman and Susan Gates, *Examining the Cost of Military Child Care* (Santa Monica, Calif.: RAND Corporation, 2002), <http://www.rand.org/publications/MR/MR1415/>.

¹⁸ Glantz and Layzer, 6.

¹⁹ Suzanne Helburn and Carollee Howes, "Child Care Cost and Quality," *The Future of Children*, vol. 6, no. 2 (summer/fall 1996), 71, http://www.futureofchildren.org/usr_doc/vol6no2ART4.pdf.

²⁰ Glantz and Layzer.

Revenues: Issues and Answers, a summary report of the 2002 Early Education Cost Symposium.²¹ This report focuses on six components of cost data collection and analysis that may be relevant to researchers in OST as well as ECE.

- **Classroom Costs.** Although early education researchers typically measure the quality of services using classroom characteristics, the cost of these services usually is measured at the program level. The author provides guidelines to help researchers collect cost data at the classroom level in four categories: food, labor, materials and supplies, and furnishings and equipment.
- **Non-Classroom Costs.** These are costs that are not incurred directly in the classroom, such as supplies and labor costs for administration. The author illustrates methods for allocating these costs.
- **Unreported Costs.** These are costs that do not show up in a program's expenditure account. The author offers several solutions for estimating these costs, including costs incurred by a program's larger organization and the value of donated resources.
- **Transportation Costs.** The author describes a functional cost reporting system that researchers can use to measure transportation costs.
- **Facilities Costs.** The author outlines the limitations of school budget accounting systems for accurately measuring the cost of preschool facilities and recommends the use of the "ingredients" method. This method involves listing the ingredients, or program cost components, and assigning a value to each.
- **Revenues.** The author describes strategies that have been effective in collecting program-

level data for services offered within and outside public school facilities.

The literature described in this review underscores the importance of methodological issues and considerations to measuring the costs of programs that serve children and youth. Which costs researchers identify, how they allocate these costs, and how they assign a value to in-kind and unreported costs all affect data collection and analysis. Different methodological approaches, for example, may result in different estimates of program costs and could lead to an underestimation or overestimation of costs. This suggests the importance of researchers identifying their methodology and assumptions when examining the costs of services, programs, or systems.

The Relationship Between Cost and Quality

The cost studies in ECE presented in this review focus not only on program costs, but also on the quality of services—an important research issue in both ECE and OST—and the relationship of cost to quality. For policymakers and program leaders across fields that serve children and youth, knowing how much quality services cost and which factors determine cost is critical to financing and implementing good programs.

In the field of ECE, quality has two major components: structural quality and process quality. Structural quality relates to aspects of the child care environment that are often regulated by government, including the child-staff ratio, caregiver education and training, and aspects of the facility such as floor space per child. Process quality refers to the nature of the care that children experience, such as the warmth and responsiveness of caregivers, children's exposure to learning materials, and the developmental appropriateness of the activities available to children. Researchers in ECE measure these elements of quality in several ways, including observations, questionnaires,

²¹ The report is available at <http://nieer.org/docs/index.php?DocID=64>.

interviews with program staff, and the use of instruments such as rating scales. Whether a center meets national accreditation standards²² may also be used to gauge quality.

The CQO study, Glantz and Layzer's reanalysis of the CQO study data, and the Massachusetts and Maine cost and quality studies all have found, to varying degrees, that the costs of providing care were positively related to the quality of care. The Massachusetts and Maine studies of cost and quality in preschool classrooms found that higher-quality early care and education costs significantly more than lower-quality care and education. Factors that are likely to increase labor costs, such as higher levels of teacher education and lower child-staff ratios, were associated with better care. Yet the studies also suggest that improvements in quality may be attainable through a variety of methods that vary in cost and that there may be unmeasured characteristics of centers that contribute to quality.²³

To determine how much it costs to increase center quality, a cost function was estimated in the CQO study. Results of the analyses indicated that positive and significant, but modest, relationships exist between cost and quality. Good-quality services cost more, but they do not cost a lot more. This finding seems surprising, given the relationship between quality and factors such as lower child-staff ratios and higher staff educational levels—factors that can be costly. The researchers suggest that the finding of a modest link between cost and quality may reflect the impact of other factors that were not captured

in the cost function, factors such as a center director's experience and staff teamwork.²⁴

The findings on the relationships between cost and quality in the ECE literature suggest the importance of identifying the factors that may impact the quality of services for children and determining whether these factors can be measured and have a cost value. The literature also suggests there may be multiple factors with varying costs that can affect the quality of services and programs for children.

Economies of Scale

Several of the cost studies described in this literature review have found that economies of scale exist in center-based programs. The CQO study, for example, found that centers that had longer hours of operation, operated closer to capacity, or served larger numbers of children had lower expended costs per child per hour with no apparent ill effects on the quality of care.²⁵ The RAND study on costs in the military's child care system found that the total per-child cost is significantly lower in larger centers.²⁶ A GAO report on the costs of high-quality ECE programs also found that the per-child cost decreases significantly as the number of children enrolled in a center increases, while noting that large centers might need to offer higher salaries than smaller centers to attract capable administrators.²⁷

These findings suggest that center-based ECE programs may be able to achieve economies of scale by serving larger numbers of children.

²² The National Association for the Education of Young Children administers an accreditation process designed to set standards of excellence in early childhood education.

²³ See Peisner-Feinberg et al.; Glantz and Layzer; Nancy Marshall et al., *The Cost and Quality of Full Day, Year-round Early Care and Education in Massachusetts: Preschool Classrooms, Executive Summary* (Wellesley, Mass.: Wellesley Centers for Women and Abt Associates Inc., 2001), <http://www.wcwonline.org/earlycare/executivenm.pdf>; and Nancy Marshall et al., *The Cost and Quality of Full Day, Year-round Early Care and Education in Maine: Preschool Classrooms* (Wellesley, Mass.: Wellesley Centers for Women, Muskie Institute of the University of Southern Maine, and Abt Associates Inc., 2004), <http://www.wcwonline.org/maine/MEPRkFinalRPT.pdf>.

²⁴ Helburn and Howes, 78–80.

²⁵ Ibid, 75.

²⁶ Zellman and Gates, xiii.

²⁷ U.S. General Accounting Office, *Early Childhood Education: What Are the Costs of High-Quality Programs?* GAO/HRD-90-43BR (Washington, D.C., January 1990), 35, <http://archive.gao.gov/d27t7/140704.pdf>.

However, researchers should be cautious about applying these findings to OST programs that may have different operating models than early care and education programs.

At the same time, research in the field of early care and education on potential approaches to achieving economies of scale may provide guidance and lessons to stakeholders in OST. Anne Mitchell and Louise Stoney have explored approaches to reaching economies of scale among small early care and education programs that are not part of a larger administrative infrastructure. These approaches include:

- shared services, such as transportation, staff development, food preparation and distribution, and payroll and other administrative services;
- shared purchasing networks that enable providers to collectively negotiate lower prices for goods and services; and
- early care and education program alliances or cooperatives in which participating centers share all or some management functions.

More information on these approaches is available from the Alliance for Early Childhood Finance.²⁸

Cost Estimate Models

In addition to cost studies that have measured specific program costs and quality, researchers have developed models to estimate the costs of early care and education. These models can help stakeholders estimate the costs of providing high-quality services and programs and the incremental costs of improving quality. In addition, cost estimate models can be applied to community-based or state-based systems of care. These models may be informative to stakeholders in OST interested in developing

models and tools to estimate the costs of high-quality OST programs and systems.

Researchers at the Institute for Women's Policy Research have designed a model to estimate the cost of implementing a voluntary, state-based, universally accessible program that provides quality early childhood education to preschool-age children, taking into account various program parameters, implementation scenarios, and participation rates. Stakeholders can use this model in several ways. For example, it can provide a means to examine relationships among costs, quality, and service standards. The institute has released a how-to manual demonstrating how states can adapt the model—*The Price of School Readiness: A Tool for Estimating the Cost of Universal Preschool in the States*.²⁹

The Financing Universal Early Care and Education for America's Children project, conducted by the Human Services Policy Center at the University of Washington, has produced a multicomponent simulation model to estimate costs and impacts of alternative financing approaches. The model enables stakeholders to examine how program quality and cost fluctuate based on various financing strategies. Further information and several state reports are available from the Human Services Policy Center.³⁰

The Finance Project has designed a process for estimating the current cost of early care and education in a state or community as well as the marginal cost of raising the quality of the system. The process involves stakeholders in clarifying what they mean by quality early care and education, creating a cost model that produces a baseline estimate, then changing the parameters to reflect the higher levels of quality desired. An implementation plan is developed to estimate the annual costs of growing from the existing system to the higher-quality system.³¹

²⁸ Visit <http://www.earlychildhoodfinance.org/>.

²⁹ The manual is available at <http://www.iwpr.org/pdf/G713.pdf>.

³⁰ Visit <http://www.hspc.org/publications/financeECEpubs.aspx>.

³¹ For more information, contact The Finance Project at 202-628-4200.

These and other cost estimate models in ECE illustrate different approaches to cost estimation and different purposes for which these types of models can be used. Yet across models, knowledge of, and assumptions about, the factors that impact quality and the costs of different elements of ECE help shape the parameters within which the models function.

Costing-Out Studies in Education Systems

Costing-out studies illustrate the different methodologies that states have used to determine the actual amount of money needed to afford every child a reasonable opportunity to meet state education standards. Several states have undertaken costing-out studies, including Kansas, Maryland, Ohio, Oregon, and Texas.³² States have begun using accepted costing-out methodologies to determine the actual costs of meeting the mandates of the federal *No Child Left Behind Act*.³³ Although costing-out studies done in education have focused on a different level of analysis—school systems and districts—than the cost studies described earlier, the methodologies used, or elements of those methodologies, could help inform cost data collection and analysis in other fields such as OST.

Several main methodological approaches are used in costing-out studies.

- **Professional Judgment Studies.** The professional judgment approach accepts as its premise that the determination of an adequate cost basis involves a large number of judgments. It seeks to establish a process to review the various judgmental factors involved and ensure that those judgments are made openly and independently. Usually this is done by assembling panels of experts to

identify the specific instructional components deemed necessary to meet state standards and then having economists determine the price of each of these components.³⁴

- **Successful School District Studies.** The successful school districts approach identifies school districts that have achieved a specified level of student performance. The average level of expenditures in these districts is then used to estimate the level of expenditure that would be required to achieve a similar level of student performance in other districts across the state. Typically, differences in cost of living and in the number of students who are disabled, low-income, and English-language learners are taken into account.³⁵
- **Cost Function Studies.** The cost function approach attempts to determine, through analyses of performance measures and cost indices, how much a given school district would need to spend, relative to the average district, to obtain a specific performance target, given the characteristics of the school district and its student body. Given the extensive data required for this approach and the complex statistical analyses involved, cost function analyses have so far been mostly theoretical modeling exercises.³⁶

³² New York State Council on Costing Out, *Adequate Funding for New York Schools: A Community Conversation on What Our Students Really Need to Succeed* (New York, N.Y., spring 2003), 4.

³³ Campaign for Fiscal Equity, Inc., *A Costing Out Primer* (New York, N.Y.: Campaign for Fiscal Equity, Inc., updated March 2005), http://www.schoolfunding.info/resource_center/costingoutprimer.php3.

³⁴ New York State Council on Costing Out.

³⁵ Ibid.

³⁶ Campaign for Fiscal Equity, Inc.

Conclusion

The cost studies, cost estimate models, and costing-out studies undertaken in related fields underscore the importance of cost data collection and analysis to efforts to improve quality and performance in the programs and systems that serve children and youth. This literature review also highlights the key role that methodological considerations play in cost data collection and analysis, and it suggests that the quality of services and programs may be affected by multiple factors with varying costs. In particular, cost studies in related fields can inform cost studies in OST in three critical areas where gaps in the knowledge base exist.

1. Measuring the full costs of programs—

cost studies in ECE and in education systems can provide guidance on determining the elements of full costs and on methodological approaches to measuring these costs, including in-kind and unreported costs.

- 2. Examining the relationship between cost and quality**—the structural and process components of quality in ECE provide valuable criteria for considering quality in related fields. Moreover, research on the relationship between cost and quality in ECE can help inform thinking on how costs relate to quality in OST.
- 3. Developing cost estimate models**—research in ECE has produced diverse models for estimating the costs of quality programs and systems. These models could help guide the development of cost estimate models and tools in OST.

Appendix I: Cost Data from Out-of-School-Time Program Studies

Studies on Out-of-School-Time Program Costs	Total Cost Per Child	Methodology and Date of Data Collection	Cost Elements Excluded	Donated or In-Kind Resources Excluded	Number of Sites Surveyed
<i>Boys & Girls Club Teen Initiatives</i>	<u>Boston:</u> \$449 per year. Range: \$432–\$600 per year.	Cost surveys completed by programs for fiscal 1999.	Yes. Startup, capital, and system-building costs excluded.	Yes. Does not account for in-kind resources from the Boys & Girls Club, including social work and administrative staff, facilities, computers, supplies, and recreational equipment.	8
Herrera January 2003 ¹	<u>New York City:</u> \$2,178 per year. Range: \$1,868–\$2,437 per year.				
<i>The After School Corporation (TASC)</i>	\$1,000 per year , or \$6.76 per day.	Review of program administrative records, site visits, and surveys of after-school coordinators and staff, 1998–2000.	Yes. Startup, capital, and system-building costs excluded.	Not clear.	84 (for cost portion of study)
Reisner et al. 2004					
<i>After School Education and Safety (ASES) Program³</i>	\$7.50 per day , on average, for after-school programs.	Surveys of program administrators, 2004–2005. Cost estimates based on ASES grant amounts and the required 50% local match.	Yes. Capital and system-building costs excluded.	Yes. Does not account for donated facilities and storage space costs.	141
Naughton and Teare July 2005	\$4.90 per day, on average, for before-school programs.				
<i>Better Educated Students for Tomorrow (BEST) After School Enrichment Program</i>	\$1,357 per year (\$2,684 per year including a conservative estimate of the value of rent-free space).	Budget data, 2003–2004.	Not clear	No.	N/A
Proscio and Whiting October 2004					
<i>San Diego “6 to 6” Out-of-School-Time Program</i>	\$1,361 per year (\$979 per year for after-school component; \$652 per year for before-school component).	Budget data, 2003–2004. Estimates based on contract amount paid to out-of-school-time providers, prorated to include administrative and overhead costs.	Not clear	Yes. Does not account for donated facilities.	N/A
Proscio and Whiting October 2004					
<i>The After School Corporation (TASC)</i>	\$1,600 per year	Budget data, 2003–2004	Not clear	Yes. Does not account for donated facilities.	N/A
Proscio and Whiting October 2004					
<i>After-School Matters (ASM)</i>	\$1,740 per year (\$2,520 per year including student apprentice stipends).	Budget data, 2003–2004.	Not clear	Yes. Does not account for donated facilities.	N/A
Proscio and Whiting October 2004					

¹ See Appendixes II and III for complete citations of the studies referenced.

² N/A means the study did not provide the relevant information.

³ This program is also known as the Before and After School Learning and Safe Neighborhood Partnerships Program.

Program Location	Auspices of Program	Program Operating Schedule	Average Number of Children Served and Target Age Group	Analysis of What Is Driving Costs (where available)
Boston, Mass., and New York, N.Y.	Comm.-based.	N/A. ²	N/A; High School	The authors suggest that some of the variation in costs between the Boston and New York City programs can be attributed to differences in program services. The Boston program provided support services to teens, while the New York City program engaged in extensive outreach efforts and used an intensive case management approach.
New York, N.Y.	School-based	Three hours per day during school year. Does not include summer or holidays.	289 youth per site; prekindergarten to grade 12.	
Various cities in Calif.	School-based			
Los Angeles, Calif.	School-based	3.5 hours per day; 5 days per week. Not known if this includes summer or holidays.	N/A; High-Risk, Elementary School	
San Diego, Calif.	School-based	5.25 hours per day; 5 days per week. Not known if this includes summer or holidays.	N/A; Elementary and Middle School.	The authors attributed the “modest” cost of this program to its comparatively low salaries, low overhead structure, and limited number of out-of-school-time enrichment opportunities that require busing.
New York, N.Y.	School-based	3 hours per day; 5 days per week. Does not include summer or holidays.	N/A; Elementary, Middle, and High School.	
Chicago, Ill.	School-based and comm.-based	3 hours per day; 3 days per week. Not known if this includes summer or holidays.	N/A; High School	

Appendix I: Cost Data from Out-of-School-Time Program Studies

Studies on Out-of-School-Time Program Costs	Total Cost Per Child	Methodology and Date of Data Collection	Cost Elements Excluded	Donated or In-Kind Resources Excluded	Number of Sites Surveyed
<i>Extended-Service Schools Initiative</i>	\$2,380.95 per year , or \$15 per day.	Cost and funding data, site visits, and interviews with program staff, fiscal managers, and local partners from 10 Extended-Service Schools sites, 1999–2000.	Yes. Startup, capital, and system-building costs excluded.	Varies. Accounts for some donated and in-kind resources, such as transportation, custodial assistance, and snacks for participants. Facility costs are excluded.	10
Grossman et al. June 2002	Range Across 10 Sites: \$1,001.87–\$4,218.13 per year.				
<i>Children's Defense Fund Survey</i>	\$3,000 per year.	Survey of local child care resource and referral agencies (CRRAs), spring 2000. Estimated total costs were calculated from hourly and/or weekly costs reported by CRRAs.	Unclear	Unclear	N/A
Schulman and Adams 1998	\$2,750 per year in rural areas. \$3,850 per year in urban areas. Range: \$1,700–\$6,400 per year.				
<i>Making the Most of Out-of-School-Time (MOST) Initiative</i>	\$4,000 per year. Range: \$3,250–\$4,750 per year.	Program budgets and data from sponsoring agencies, funders, and regulatory agencies.	Yes. Startup, capital, and system-building costs excluded	Varies. In-kind contributions (e.g., rent and utilities, agency administrative time, and volunteers) were not taken into account for some programs.	60 (40 in Boston, 10 in Chicago, and 10 in Seattle). ⁴
Halpern et al. 2001					
<i>"High Quality" Program—Boston Estimate</i>	\$4,349 per year for a school-year program. \$5,989 per year for a full-year program.	Professional estimate based on experiences of out-of-school-time providers who operate programs in Boston.	Yes. Startup, capital, and system-building costs excluded.	No	N/A
Wechsler et al. March 2001					
<i>Beacon Initiative</i>	\$7,160.40 per year , or \$27 per day.	Program year-end financial reports, 2000–2001.	Yes. Startup, capital, and system-building costs excluded.	Unclear	5
Walker et. al March 2004	Range: \$3,978–\$10,873 per year, or \$15–\$41 per day.				

⁴ The study also collected information on an unspecified number of programs run by large public and private providers, such as schools and park districts.

Program Location	Auspices of Program	Program Operating Schedule	Average Number of Children Served and Target Age Group	Analysis of What Is Driving Costs (where available)
Central Falls, R.I.; Minneapolis, Minn.; Missoula, Mont.; Aurora, Colo.; Boston, Mass.; and Savannah, Ga.	School-based	2–3 hours per day; 5 days per week; 50 weeks per year. Includes holidays, but not summers.	63 youth per site; Kindergarten–grade 8.	Authors attributed cost variations among programs to the need to provide transportation; the program's administrative structure; the breadth and types of activities offered; the staff-youth ratio; the relative ability to plan accurately for the number of participating youth; and investment in such factors as fundraising and program sustainability.
Nationwide (sample includes 35 states, 41 rural areas, and 45 urban areas)	Varies	3.5 hours per day; 180 days per year and 8 hours per day during 71 nonschool weekdays. Includes summer; not clear if it includes holidays.	N/A	
Boston, Mass.; Chicago, Ill.; and Seattle, Wash.	Varies	5 days per week, 50 weeks per year. Includes holidays; not known if it includes summers.	N/A	
Boston, Mass.	School-based or comm.-based	<p>School Year Program: 5 hours per day; 38 weeks per year, plus full-day care (10 hours) for 4 weeks per year. Includes holidays, but not summers.</p> <p>Full-Year Program: 5 hours per day; 38 weeks per year, plus full-day care (10 hours) for 14 weeks per year. Includes holidays and summers.</p>	N/A	
San Francisco, Calif.	N/A	5.2 days per week. 51 weeks per year. Includes holidays and summers.	141 youth per site	Authors acknowledge their cost estimates are higher than those derived in other national evaluations. They attribute this to the extensive services—for example, reading, counseling, and case management—provided by these programs as well as the high cost of living in the area.

Appendix II: Bibliography of Resources on Costs in Out-of-School-Time Programs and Related Fields

Research on Costs in Out-of-School-Time Programs

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Appendix III: Bibliography of Resources on Quality in Out-of-School-Time Programming

In late 2005, Public/Private Ventures (P/PV) and The Finance Project, with support from the Wallace Foundation, began investigating the costs of high-quality out-of-school-time (OST) programs. The project aims to help public officials, policymakers, and program providers make sound investments in out-of-school-time programs by giving them up-to-date information about the costs and quality implications of a menu of OST options.

One of the main tasks in this research was to collect cost data on a large number of “high-quality” OST programs across the nation. To do this, the project team needed a quick and efficient method of distinguishing high-quality programs from lower-quality ones.

Much of the discourse on what makes OST programming of high quality has focused on programs’ content (i.e., curriculum) and processes (i.e., the interactions among staff and participants). This approach to evaluating out-of-school learning environments is well encapsulated in the National Academy of Science’s summary, *Community Programs to Promote Youth Development*, which identifies eight fundamental features of positive developmental settings, including items such as “supportive relationships” and “opportunities to belong.”³⁷ There is clear value in evaluating the social and interpersonal dynamics that make for a positive, highly engaging environment for youth. However, to identify high-quality programs without conducting in-depth qualitative data collection, such as observations and interviews, the project team needed to identify more easily measured structural features that are present when these harder-to-capture qualities manifest themselves. Therefore, the review examined the literature on out-of-school-time programs and related fields, seeking information on the organizational elements that must be in place to support the kinds of

positive interactions and learning experiences that other studies have identified as valuable for youth development.

The bibliography presented in this appendix is a collection of resources the project team found useful in building a picture of the structural elements of high-quality OST programs. This is by no means a definitive survey of all relevant literatures, nor do any of these sources specifically identify a set of field-tested, research-validated structural “markers” of high-quality OST programming. Nevertheless, the bibliography can serve as a starting point for researchers and practitioners asking questions about the organizational structures that must be in place to foster high-quality OST programming.

The bibliography is divided into the three areas the project team examined in its review.

- 1) **Established research on OST and related programs** that had been examined by previous reviews (most recently—and comprehensively—the RAND Corporation’s 2005 literature review, *Making Out-of-School-Time Matter*³⁸). The project team examined this literature with an eye toward more detailed information on specific practices that have been seen to contribute to positive developmental outcomes for youth.
- 2) **New studies of OST programs** that have come out in the past year and a half, after the publication of the most recent literature reviews. Research specifically aimed at out-of-school-time programming is a relatively new and rapidly evolving field, and the project team wanted to be sure that its study took into account the newest developments in the field.

³⁷ Jacquelynne Eccles and Jennifer A. Gootman, eds., *Community Programs to Promote Youth Development* (Washington, D.C.: National Academy Press, 2002)

³⁸ Susan J. Bodilly and Megan K. Beckett, *Making Out-of-School-Time Matter: Evidence for an Action Agenda* (Santa Monica, Calif.: RAND Corporation, 2005)

3) Literature from the field of organizational behavior, a well-established field of study with a long history of investigating the tangible elements of effective organizations, with an eye toward identifying resources and practices of successful organizations that can be emulated by others. In particular, the project team looked at the literature on successful organizational change, a body of research that focuses on organizations' efforts to orient all their systems to reflect and support a focused "mission." Within this literature are studies the project team believed would make useful additions to the information that previous reviews had gleaned from OST-related literatures. In this same spirit, the project team also looked at that subset of the education literature that has focused on schools as organizations and the structural characteristics and management practices that make for effective schools.

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